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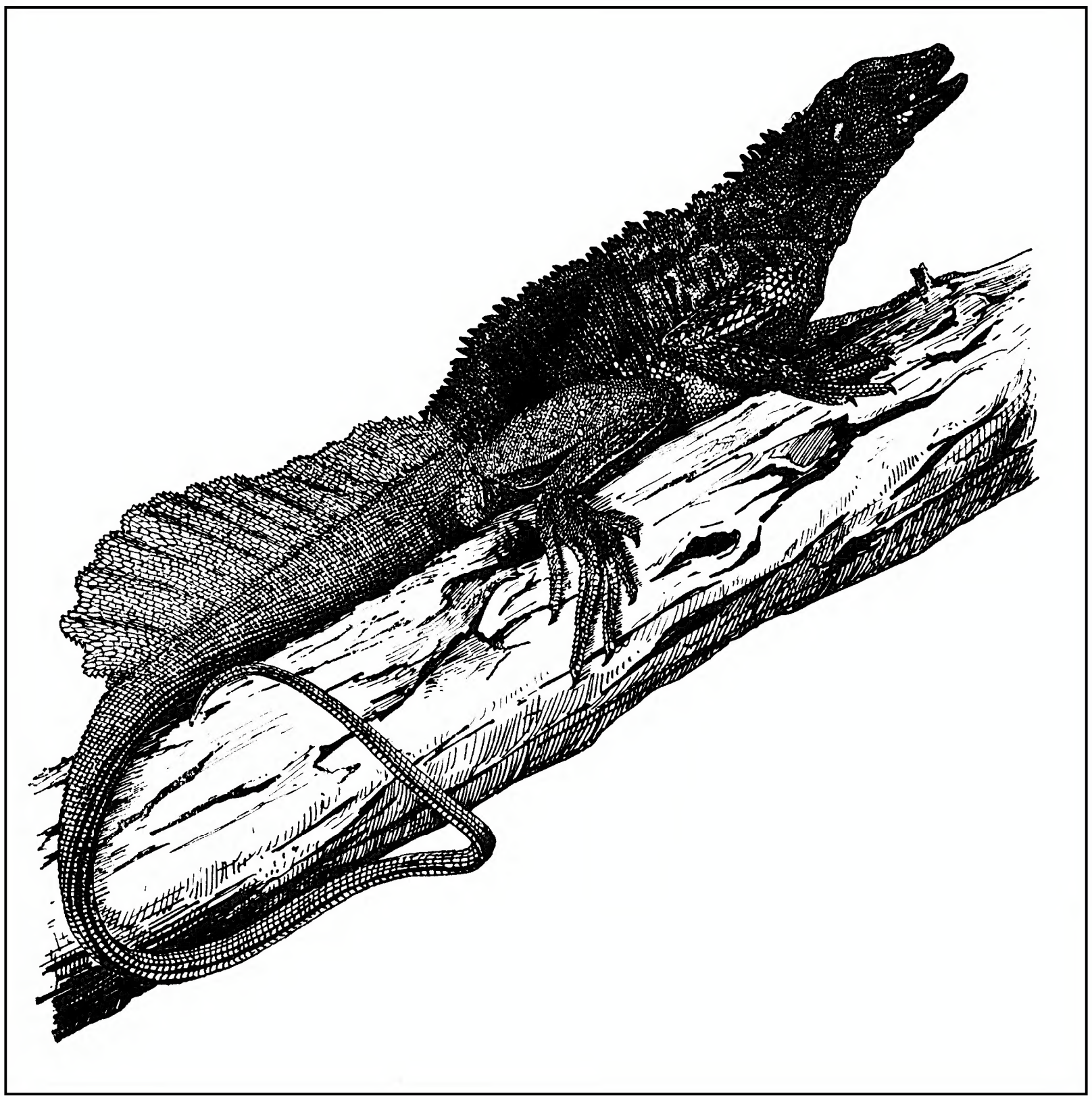

BULLETIN OF THE CHICAGO HERPETOLOGICAL SOCIETY
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Notes on Herpetofauna 6: Herpetofauna of Sierra San Antonio Peña Nevada, Zaragoza, Nuevo León, Mexico: Preliminary List

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Abstract

The major mountain chains in central and southern Nuevo León, Mexico, harbor smaller, closely packed mountain ranges. One such, in the southwestern portion of the state, is Sierra San Antonio Peña Nevada. It is part of the much larger Sierra Madre Oriental chain, 30% of which lies within the state of Nuevo León and 70% within the state of Tamaulipas. Sierra San Antonio Peña Nevada encompasses a surface area of 605 km^2. The site is heavily covered with rocks, pine forest, pine– oak forest, oak forest, chaparral and agaves. The study area ranges in elevation between 2100 and 3600 m. Multiple trips to the study site were conducted during the months of May 2001 though May 2003. Seasonal and climatic changes were recorded during each trip. One of main goals was to establish a preliminary herpetological list. Thirty-two species of herpetofauna have now been recorded at this sierra site. Phrynosomatid lizards (seven species) made up the bulk of the observations (594 individuals); the snakes were represented by three families: Leptotyphlopidae (one species), Colubridae (12 species) and Viperidae (four species). Amphibians were poorly represented by only four families: Plethodontidae (two species), Bufonidae (one species), Leptodactylidae (two species) and Scaphiopodidae (two species).

Keywords: Herpetofauna, Sierra San Antonio Peña Nevada, Nuevo León.

Introduction

The large mountain systems in Mexico comprise four major mountain chains: the Sierra Madre Oriental, the Sierra Madre Occidental, the Transmexican Volcanic Stretch and the Sierra Madre of the South. The resulting abrupt changes in elevation make the Mexican topography among the most rugged in the world. The major mountain chains in central and southern Nuevo León, Mexico, harbor smaller, closely packed mountain ranges. One such, in the southwestern portion of the state, is Sierra San Antonio Peña Nevada. It is part of the much larger Sierra Madre Oriental chain, 30% of which lies within the state of Nuevo León and 70% within the state of Tamaulipas. Sierra San Antonio Peña Nevada encompasses a surface area of 605 km^2; its geographical coordinates are Latitude N 23°33′18″ to 23°52′28″ and Longitude W 99°38′55″ to 99°56′45″. Within the municipality of Zaragoza, Nuevo León, it occupies approximately 209.5 km^2 of sierras and canyons. Other localities into which it extends are: Doctor Arroyo, Nuevo León; Miquihuana, Tamaulipas; Liberia, Nuevo León; Marcela, Tamaulipas; and El Aserradero, Tamaulipas (CETENAL 1979, 1980). This area is now considered part of the National System of Priority Areas (Arriaga et al., 2000; INEGI, 1995–2000).

The study area is a large polygon of about 210 km^2. This polygon was divided to sub-polygons characterized by differing plant communities and densities. These sub-polygons were then broken down further to obtain geo-reference areas or positions. The sub-areas within the sub-polygons were then converted to sampling areas to collect data on the diversity and frequencies of all herpetofauna encountered.

The state of Nuevo León has received the attention of many international and national herpetologists since the early 1940s. Their main goals were to establish what species were present in the state, and to compare this herpetofauna with that of neighboring states like Coahuila and Tamaulipas, as well as that of the state of Texas in the USA. Many of these authors have contributed to the herpetofaunal list with first reports of species for the state; others have written on ecology and distribution of the species. Some of the more important publications are: Martín del Campo (1949); Horowitz (1955); Smith and Taylor (1945, 1948, 1950, 1966); Liner (1964, 1966); Aseff (1967); Smith and Alvarez (1974); Julia-Zertuche and Treviño (1978); Treviño (1978); Vallejo (1981); Knight and Scudday (1985); Benavides (1987); Contreras (1989); Liner and Dixon (1992); Lazcano et al. (1992); Lazcano and Contreras (1995); Najera (1997); Conant and Collins (1998); Banda (2002); Dixon and Vaughan (2003); Banda et al. (2003); Bryson et al. (2003) and Lazcano et al. (2004). Thanks to the contribution of these authors the prospects for future herpetological studies continue in the state. These past contributions make it easier to obtain financial support for proposed herpetological surveys.

One important biological fact about the area is its plant community composition. The best information concerning

these plant communities is from Treviño-Garza (1984), who reported nine different plant communities distributed by altitude in the municipality of Zaragoza, Nuevo León. These are:

Type of Vegetation	Altitude (masl)
Pinus–Abies, Pseudotsuga–Quercus forest	2,600–3,400
Pinus cembroides–P. nelsoni–Juniperus flaccida forest	1,800–2,500
Pinus forest	1,600–3,000
Pinus–Quercus forest	2,100–3,200
Quercus–Pinus forest	1,500–3,100
Quercus forest	1,700–2,800
Chaparral	1,800–3,500
Matorral Desértico Rosetófilo (desert scrub)	1,400–2,000
Matorral Desértico Rosetófilo (desert scrub)	~1,380

Understanding the association between the herpetofauna and the plant communities is a very important factor to determine and comprehend when studying mountain communities. Mountain chains in many cases are geographical/biological barriers for the distribution of species. As plant communities change or become fragmented this affects the herpetological community composition.

Our goal was to gain information on the ecology and distribution of the herpetofauna associated with the plant communities in the San Antonio Peña Nevada, Zaragoza, Nuevo León, Mexico. More specifically, we wanted to identify 1) the distinct physical environmental factors that contribute to the distribution and association of these species in relation to the various plant communities, 2) the biological factors of the various plant communities, and 3) the microhabitats used.

Methodology

The study site is located in the municipality of Zaragoza, approximately 392 km southeast of the metropolitan area of Monterrey. The study site is located in a small area of San Antonio Peña Nevada Mountain. The site is heavily covered with rocks, pines, pine–oaks, oaks, chaparral and agaves. The study area ranges in elevation between 2100 and 3600 m.

Multiple trips to the study site were conducted during the months of May 2001 though May 2003. Seasonal and climatic changes were recorded during each trip. The length of each trip was six days—two days traveling to and from the area and four days at the site for sampling.

Within the different plant communities, 800 m transects were established, with sample points every 200 m. Sampling units were circles 25 m in radius about each sample point. All herpetofauna was collected/observed using Campbell and Christman (1982) methodology. Physical environmental parameters were recorded when a herpetological species was encountered. These included: air/substrate temperature, barometric pressure, relative humidity air/substrate, time of day and position or orientation to the sun.

Recorded biological parameters included: sex, weight, snout–vent length, total length, and general physical condition.

Results

A total of 26 trips have been conducted between May 2000, when the research program was initiated, and May 2003. All species collected were done so under the following permits issued by the INE (Instituto Nacional de Ecologia): No. DOO. 02-3252 issued 05 July 1999, expiration July 05, 2000, No. DOO. 02-5951 issued 24 October 2000, expiration October 24, 2001, and No. DOO. 02-01311 issued 04 March 2003, expiration March 2004.

This information has provided the Universidad Autónoma de Nuevo León (UANL) with a list of herpetological species found in the various plant communities, and has provided a general idea and understanding of the adaptation of these species to the changing biological and physical parameters of their environment. This information is recorded in an Excel database, illustrating seasonal activity periods and documenting which species occupy the various plant communities. Figure 1 and Table 1 show the ecological distribution of each species found within the varied plant communities. Within the chaparral forest community we found 16 different species, totaling 677 individual observations. This number represents 57.6% of the 1174 total individuals observed. The chaparral forest community currently has the highest species count and the highest frequency of species encounters.

The most vulnerable species present are the plethodontids, which were found mainly in the chaparral and oak forest, representing a total of 278 individuals.

The herpetofauna of Sierra San Antonio Peña Nevada represents 24.2% of the 132 species known from the state of Nuevo León (Lazcano and Contreras, 1995). Elevation, climate, plant communities, and topography all play an important role in determining the number of species found in any area.

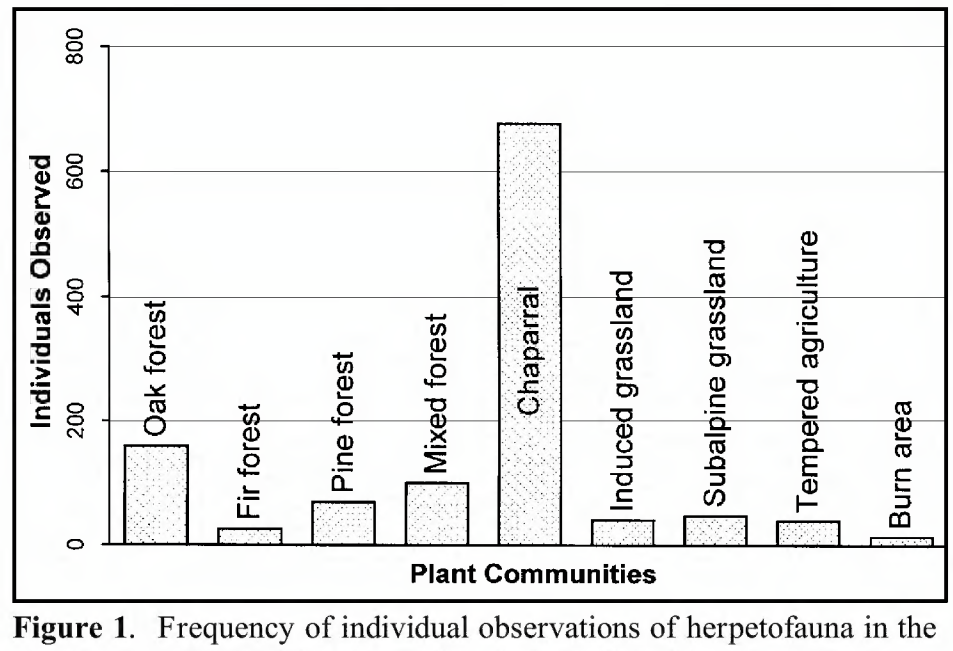

Figure 1. Frequency of individual observations of herpetofauna in the plant communities of the Sierra San Antonio Peña Nevada, Zaragoza, Nuevo León, Mexico.

Table 1. Ecological distribution of herpetofauna observations in the Sierra San Antonio Peña Nevada, Zaragoza, Nuevo León, Mexico.

Species	Oak forest	Fir forest	Pine forest	Mixed forest	Chap-arral	Induced grassland	Subalpine grassland	Tempered agriculture	Burn area	Total
Chiropterotriton priscus	66	16	8	18	150	4	16	0	0	**278**
Pseudoeurycea galeanae	3	0	1	0	15	0	0	1	0	**20**
Bufo nebulifer	0	0	0	0	0	0	0	0	1	**1**
Sceloporus chaneyi	1	0	0	0	19	0	2	1	0	**23**
Sceloporus grammicus disparilis	34	9	38	30	272	25	17	24	8	**457**
Sceloporus minor	5	0	6	1	9	0	0	3	1	**25**
Sceloporus parvus parvus	0	0	0	0	6	2	0	0	0	**8**
Sceloporus spinosus spinosus	0	0	3	0	1	0	0	1	0	**5**
Sceloporus torquatus mikeprestoni	2	0	0	11	47	4	0	1	1	**66**
Barisia imbricata ciliaris	0	1	0	0	3	0	1	0	0	**5**
Eumeces brevirostris pineus	42	0	0	38	117	2	12	4	3	**218**
Crotalus lepidus morulus	0	0	8	0	16	4	0	1	0	**29**
Crotalus molossus molossus	0	0	4	0	0	0	0	0	0	**4**
Crotalus pricei miquihuanus	4	0	0	0	14	0	0	0	0	**18**
Rhadinaea montana	0	0	1	0	0	0	0	0	0	**1**
Salvadora grahamiae lineata	0	0	0	0	1	0	0	0	0	**1**
Storeria hidalgoensis	1	0	0	2	2	0	0	0	0	**5**
Thamnophis exsul	1	0	0	0	4	0	0	3	0	**8**
Thamnophis pulchrilatus	0	0	0	0	1	0	0	1	0	**2**
Total	**159**	**26**	**69**	**100**	**677**	**41**	**48**	**40**	**14**	**1174**
Number of Species	**10**	**3**	**8**	**6**	**16**	**6**	**5**	**10**	**5**	**19**

Species list: The following species are recorded from the study site based on published literature, thirteen museum collections and our own observations:

Amphibians: Caudata

Plethodontidae

Chiropterotriton priscus, Primeval splayfoot salamander
Pseudoeurycea galeanae, Galeana false brook salamander

Amphibians: Anura

Bufonidae

Bufo nebulifer, Gulf Coast toad

Leptodactylidae

Eleutherodactylus augusti, Barking frog*
Eleutherodactylus guttilatus, Spotted chirping frog*

Scaphiopodidae

Spea hammondii, Western spadefoot*
Spea multiplicata mutiplicata, New Mexico spadefoot*

Reptiles: Sauria

Anguidae

Barisia imbricata ciliaris, Northern imbricate alligator lizard

Phrynosomatidae

Phrynosoma orbiculare orientale, Eastern mountain horned lizard*
Sceloporus chaneyi, Chaney's spiny lizard
Sceloporus grammicus disparilis, Northern mesquite lizard
Sceloporus minor, Yarrow's mountain spiny lizard
Sceloporus parvus parvus, Northern bluebelly lizard
Sceloporus spinosus spinosus, Spiny lizard
Sceloporus torquatus mikeprestoni Preston's crevice swift

Scincidae

Eumeces brevirostris pineus, Pine woods short-nosed skink

Reptiles: Serpentes

Colubridae

Elaphe bairdi, Baird's ratsnake* (?)
Ficimia streckeri, Tamaulipan hook-nosed snake*
Lampropeltis mexicana, San Luis Potosí kingsnake* (?)
Masticophis schotti ruthveni, Ruthven's whipsnake* (?)
Pituophis deppei jani, Northern Mexican pinesnake* (?)
Rhadinaea montana, Nuevo León graceful littersnake
Salvadora grahamiae lineata, Texas patch-nosed snake
Storeria hidalgoensis, Mexican yellow-bellied brownsnake
Thamnophis cyrtopsis cyrtopsis, Western black-necked gartersnake*
Thamnophis exsul, Exiled gartersnake
Thamnophis pulchrilatus, Yellow-throated gartersnake
Trimorphodon tau tau, Mexican lyresnake*

Figure 2. A pine forest area with many agave elements used by the herpetofauna in San Antonio Peña Nevada.

Figure 3. *Barisia imbricata ciliaris*, one of the less frequently found species in San Antonio Peña Nevada, found up to 3000 m.

Figure 4. *Sceloporus grammicus disparilis, t*he most frequently encountered species in San Antonio Peña Nevada, found from 1980 to 3100 m.

Figure 5. *Crotalus lepidus morulus*, the main herpetological predator found in San Antonio Peña Nevada.

Figure 6. A rocky area of chaparral– oak forest. An excellent place for almost all species in San Antonio Peña Nevada.

Leptotyphlopidae

Leptotyphlops myopicus myopicus, Tampico threadsnake*

Viperidae

Crotalus lepidus morulus, Tamaulipan rock rattlesnake

Crotalus molossus molossus, Northern black-tailed rattlesnake

Crotalus pricei miquihuanus, Miquihuanan twin-spotted rattlesnake

Species marked with an asterisk were not recorded by UANL staff members at the study site.
(?) The presence of these species is questionable due to the altitude of the study area.

Plant Communities and the Herpetological Fauna

There are eight important plant communities in Sierra Peña Nevada. These are oak, fir (abies), pine, mixed, chaparral, induced grassland, subalpine grassland, and tempered agriculture. Whether natural or man-made introductions, plants play an important role in the distribution of the herpetofauna in the area. Plant communities that have been thoroughly studied are the oak, fir, pine, mixed forest (pine–oak) and chaparral. We have identified 40 families, 84 genera and 54 species of vegetation in the pine forest community (note: some plants could be identified only as to genus, and not to the species level).

The following are examples of some of the families and species in the pine forest community: Amaryllidaceae—*Agave asperrima* (rough agave / *maguey cenizo*), Bromeliaceae—*Tillandsia recurvata* (ball moss / *gallitos*) and *T. usneoides* (Spanish moss / *pastle)*, Cyperaceae—*Carex turbinate (*sage), Fabaceae—*Sophora secundiflora* (Texas mountain laurel / *frijolillo*), Fagaceae—*Quercus saltillensis* (Saltillan oak / *encino de Saltillo*), *Q .intricate* (oak / *encino*), *Q. pringlei* (oak / *encino*), Pinaceae—*Pinus nelsonii* (Nelson's pine*)*, and Salicaceae—*Salix oxylepis* (willow / *sauce*).

We have identified 34 families, 70 genera and 26 species of vegetation in the oak forest community. Some of the families and species are: Amaryllidaceae—*Agave asperrima* (rough agave / *maguey cenizo*), Cyperaceae—*Carex turbinate* (sage), Fabaceae—*Sophora secundiflora* (Texas mountain laurel / *frijolillo*), Fagaceae—*Quercus mexicana*, *Q. greggii*, *Q. emoryi* (oaks / *encino*), Pinaceae—*Pinus cembroides* (Mexican pinion pine / *pino piñonero*), Rosaceae—*Prunus serotina* (wild black cherry / *cerezo negro*), and Salicaceae— *Salix oxylepis* (willow / *sauce*).

In the mixed forest we identified 39 families, 71 genera and 49 species. Here is an example of some of the families and species in the mixed forest community: Amaryllidaceae—*Agave asperrima* (rough agave / *maguey cenizo*), Cyperaceae—*Carex turbinate* (sage), Fabaceae—*Desmodium* sp. (tick-treefoil), Fagaceae—*Quercus mexicana* (oak / *encino*), *Q.* sp. (oak / *encino*), Pinaceae— *Pinus cembroides* (Mexican pinion pine / *pino piñonero*), *P. arizonica, Pseudotsuga menziessi (blue Douglas fir /* oyamel*)*, Rosaceae—*Prunus serotina* (wild black cherry / *cerezo negro*), and Salicaceae—*Salix oxylepis* (willow / *sauce*).

In the chaparral forest the main species found there and associated with the herepetofauna is *Agave asperrima* (rough agave / *maguey cenizo*). Our database shows quite a mixed variety of plant species found in both pine, oak and mixed forests, but chaparral forest quite different. Parameters such as temperature, solar exposure, age of the forest and humidity are responsible for the intensive differentiation within this forest.

Discussion

As mentioned above, the preliminary list of herpetofauna recorded at Sierra San Antonio Peña Nevada comprises 32 species. Lizard species of the family Phrynosomatidae contributed the most observations. We believe this is due to habitat utilization and diurnal activity. Daytime temperatures and solar irradiation contribute to these lizards' activity periods.

Seasonal and daytime temperatures fluctuated between 12°C and 27°C. Peak basking hours ranged from 5 to 9 hours depending on the daily weather conditions and the season. Lizard activity diminished after 1700 h with the onset of darkness. Nighttime temperatures ranged from 5°C to 9°C; no amphibian or reptile activity was recorded at these low temperatures. Lizards of the family Phrynosomatidae were the most abundant and active group in the area, with *Sceloporus grammicus disparilis* accounting for 38.93%, *S. torquatus mikeprestoni* for 5.62%, *S. chaneyi* for 1.96% and *S. minor* 2.13%. *Sceloporus p. parvus* and *S. spinosus spinosus* together accounted for 1.11%. The family Scincidae, which is represented only by *Eumeces brevirostris pineus*, accounted for 218 observations (18.57%). The family Anguidae is represented by *Barisia imbricata ciliaris*, with 5 individuals (0.43%).

Snakes were the least observed reptiles. The Tamaulipan rock rattlesnake, *Crotalus lepidus morulus*, with 29 individual recordings (2.47%), was the most frequently encountered snake species. *Crotalus lepidus morulus* is closely associated with agaves in the pine, pine-oak, and chaparral forests. This rattlesnake is one of the top predators of phrynosomatid lizards. A recent report by Lazcano et al. (2004) demonstrated that *Sceloporus grammicus disparilis*, *Barisia imbricata ciliaris* and *Eumeces brevirostris pineus* are included in its diet. It is sympatric with another rattlesnake, *C. pricei miquihuanus*, of which species 18 individuals were found (1.53%).

In the area there are two endemic species, *Sceloporus chaneyi* (1.95%) and *Thamnophis exsul*. The latter species was represented by 8 individuals (0.68%).

A total of seven amphibians have been reported for the Sierra San Antonio Peña Nevada. Of these the two species most frequently found in our study were the plethodontids *Chiropterotriton priscus* (primeval splayfoot salamander), 278 individuals (23.68%), and *Pseudoeurycea galeanae* (Galeana false brook salamander), 20 individuals (1.70%). These are perhaps the most vulnerable species found in the area, and are the subject of a major study at the moment.

This whole area has been exposed to many forest fires in the last 30 years, diminishing in large numbers the plant communities established there. The health of these plant communities is extremely important for all the herpetological communities in

this priority area. Our information obtained here is part of a large and extensive report of the herpetological status of the area, which will be used as a tool for future conservation sites within the area and as an example for state and national areas.

Since the establishment of the 152 Priority Terrestrial Regions of Mexico (*Regiones Terrestres Prioritarias de México*) according to Arriaga et al. (2000) and INEGI (1995–2000), federal and state authorities have put more effort into establishing evaluation systems in many of these areas to increase the status information on the different plant and animal communities.

Despite this increased emphasis on ecological strategy planning, many mountain sites in the state of Nuevo León still lack sufficient information about their herpetofauna. Some of these mountain sites are located to the north like Picachos, Papagayos, Sierra La Goma, Sabinas, Lampazos, Minas Viejas, Bustamante and Pajaros Azules. To the south such sites include Sierra Viborillas, Cieneguita and Purisima.

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Bull. Chicago Herp. Soc. 39(10):188-189, 2004

Book Review: *The Amphibians and Reptiles of Arkansas* by Stanley E. Trauth, Henry W. Robinson, and Michael V. Plummer. 2004. xvii + 421 pp. University of Arkansas Press, Fayetteville. ISBN 1-55728-737-6. Hardbound. $45

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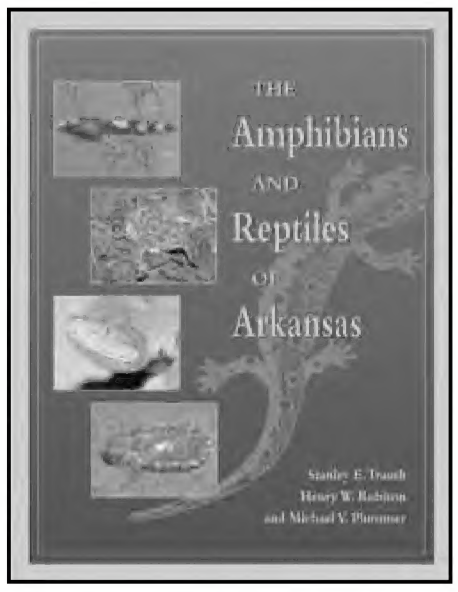

By the mid to late twentieth century, many individual American states were fortunate to have herpetofaunal references in the form of books, monographs or collections of papers. In general, these references established valuable baselines of regional knowledge that could then be consulted by successive generations of a state's herpetologists. Just as often these works stated where important gaps existed in the data available on a given state's herpetofauna. In the case of Arkansas, only one somewhat general reference treating all (then-known) species from the state was available (Dowling, 1957). The year 2004 has thus proven to be a most important benchmark year in the knowledge of Arkansas herpetology with the publication of *The Amphibians and Reptiles of Arkansas* by Drs. Trauth, Robinson and Plummer. Collectively, the names of these three authors, along with their students and close colleagues, have (since the 1970s) easily dominated the robust literature on the natural history of these two vertebrate classes in Arkansas.

This book has been in preparation for quite some time. In May 1997, I visited Dr. Trauth's laboratory, and the Arkansas State University herpetology collection as a graduate student. Dr. Trauth kindly aided my project (Redmer and Brandon, 2003) by allowing me to examine specimens and by sharing a current working copy of the Arkansas distribution map for the green treefrog, *Hyla cinerea*. Later, at the 2001 joint annual meetings of the SSAR/Herpetologist's League in Indianapolis, Indiana, Dr. Trauth was frequently seen carrying (some might even say "lugging") about a copy of an enormous manuscript. He gave fortunate colleagues brief but rewarding glimpses of the manuscript that was to become the book discussed here. It was clear at that time that this could, once published, become one of the more magnificent of the many recent regional treatments of herpetofaunas in the United States. Not long after opening the published book, it was clear authors and the publisher did an excellent job of making this happen.

This book is presented in a pattern that has become somewhat standard for state herpetofaunal reviews. There are four major sections. The opening section includes 18 pages of introductory text (Foreword, Preface, Acknowledgments, Introduction), and subsections on history of Arkansas herpetology, classification and checklist of Arkansas species, an explanation of species and subspecies, ecoregions of Arkansas, methods for observing Arkansas species, conservation, erroneously reported species, and a mention of the state's single exotic species (*Hemidactylus turcicus*). The middle of the book includes two major taxonomic sections separated by class (Amphibians and then Reptiles). The closing section includes a glossary, bibliography (Literature Cited), an Arkansas county map, an index to common and scientific names, and a subject index.

Within the major class sections, the reader finds family and species accounts. Species accounts (augmented by numerous illustrations and county dot maps) include **Description** of adults, known **Arkansas Distribution**, **Habitat and Habits**, **Conservation Status**, and **Arkansas Literature and Remarks**.

I found several scattered typographical errors or examples where word choice was not as precise as it could have been, though all were quite minor. Two examples include a discussion (on page 8) of a " . . . striving [thriving?] population of dusky salamanders," while " . . . *Liopeltis* [*Liochlorophis*?] *vernalis* . . . " is mentioned as an erroneously reported species on page 39. Similarly, while discussing conservation of the Ozark hellbender the text mentions this species " . . . has become a candidate on the endangered species list." In fact, the taxon *Cryptobranchus alleganiensis bishopi*, is presently recognized by the United States Fish and Wildlife Service as a candidate *for* listing as a threatened or endangered species (United States Fish and Wildlife Service, 2001). Also, while the Class Family/Species Accounts Sections include introductory descriptions of families, it was curious that the text was further subdivided to indicate subfamily classification, but no additional description of subfamily characteristics was provided beyond sub-subsection titles (e.g., "Subfamily Colubrinae—Harmless, Egg-laying Snakes" vs. "Subfamily Xenodontinae—Rear-fanged [Harmless] Egg-laying Snakes"). Listing subfamilies has not been a consistent practice in state herpetofauna books, and a further description of subfamilies might have been instructive for non-herpetologist readers.

The strengths of this book easily obscure the few minor points listed above. One of the first strengths any reader will notice should be the many (over 500), high-quality, color photographs. Most taxa (species as well as subspecies) are represented by "portrait" photographs of typical adult specimens. However, on more careful inspection it also should be clear the authors also went to great lengths to illustrate the life histories of Arkansas species. While such attempts are never completely comprehensive, this book may come as close to

succeeding as any in recent memory. Examples include photos of habitat(s), static appearance or variation (e.g., ontogenetic or sexual dimorphism, egg masses, larvae [see next paragraph], mothers with litters of neonates), and behaviors (e.g., calling male frogs, mating pairs, feeding).

A second major strength of this book is that it gives equal treatment to identification of amphibian larvae. Subsections on salamander larvae and tadpoles of frogs and toads include identification keys, black and white illustrations of dentition or other characteristics. However, perhaps most importantly these subsections provide color photos of live specimens, many represented by multiple stages for the state's species with larval periods. Aquatic larval stages are increasingly being used to study the biology of species for which natural history information was previously confined to metamorphosed individuals (McDiarmid and Altig, 1999). Since good color photos of live amphibian larvae (identified to species) are still relatively uncommon, these sections should be valuable not only to Arkansas biologists but to biologists in other states with these species. The keys to tadpoles/salamander larvae will hopefully raise the bar for treatments of larvae in future regional/state herpetofauna books.

This book is scholarly, and a bit bulky, yet it should be an easily referenced work for experts and public alike. The hardcover copy has quality paper, binding and an attractive dust jacket. It has a very reasonable price considering its large format (page size is standard 8½ × 11″), the amount of information it provides and its readability. Indeed, perhaps the single greatest strength of this book is that it conveys to the reader that the authors are not simply academic experts, but keen Arkansas naturalists. They clearly enjoyed telling the story of Arkansas herpetofauna enough to endure what were surely thousands of hours preparing the manuscript and seeing it to publication. When authors enjoy writing, readers often can tell because they in turn enjoy the reading. This is a rare occurrence in academic texts. One hopes that authors and publishers of future state herpetofaunas will not attempt to copy this book, but instead will use it as a baseline example to stimulate their own creativity and writing style.

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HerPET-POURRI

by Ellin Beltz

Wow, take a month off and watch the stuff pile up!

My apologies for an unexpected off-month in September 2004. There were just a few too many things going on in the word factory and Mike very kindly offered to let me take a month away. Time flies, however, and here we are a month later with some older stories and some newer ones all intermingled.

Excitement for HerpDigest

Hurricane Charley heightened the excitement for reptile fans at the Daytona, Florida, annual expo. Attendees included Allen and Anita Salzberg, signing copies of their latest book *When you Dream in Green*, a collection of humorous (or familiar) stories about herps and the people with whom they live. The hurricane predictably slowed down business at the event; even so, the charity auction raised $12,000 for two crocodile conservation programs. [*Daytona News-Herald*, August 16, 2004, from Allen Salzberg]

• Allen and Anita's book, *You Know You're a Herper . . . When You Dream in Green*, costs $11.95, plus $4.00 S&H. ISBN: 0-9753235-0-4, paperback, 136 pp., from HerpArts.com and, as Allen writes, consider adding one or more of "the 2005 turtle, frog and lizard calendars . . . cards, herp art, jewelry, great gifts for birthdays and the upcoming holidays." HerpDigest is a weekly roundup of news for and about herpetologists that Allen has run for years and years from his New York apartment. But unless they make their budget for the year from proceeds from books, products and donations, Allen and Anita are going to have to put it aside which would be a great loss to all of us. Please consider a quick vote with your holiday shopping list over at HerpArts.com and let them know that our community really cares about what they do.

Wow . . . check it out!

• *Amphibian Species of the World: An Online Reference*, Version 3, is now live: < http://research.amnh.org/herpetology/amphibia/index.php> . New features include Boolean searches, a new database structure, and updates through 22 August 2004. [from Darryl Frost]

• An Ocala man was tired of getting treefrogs in his hoses and

swimming pool so he invented a treefrog house which treefrogs prefer to his pool equipment. Swamped by friends and neighbors, he developed them commercially. So if you are plagued by treefrogs in your pool equipment, visit < http://www.treefroghotel.net> . [*HerpDigest*, Volume 5, Issue 1, September 5, 2004, from Allen Salzberg]

End of one lawsuit

"A federal judge struck down permits issued by the Bush administration that allowed cattle grazing and off-road vehicles in a desert tortoise habitat in California, saying they violated the Endangered Species Act," according to the Associated Press, August 4. The federal judge, ruling that critical habitat is intended to promote the recovery of endangered and threatened species, said "the Department of Interior hadn't done enough to protect the tortoise on 4.1 million acres set aside for its recovery in the California desert." Conservation organizations said the ruling was "very important" and "upheld the intent of the Endangered Species Act." [*GREENLines*, August 5, 2004, Issue 2164]

But another waiting to happen

"The Bush administration is giving Central Valley ranchers freer rein as officials seek to protect the threatened California tiger salamander," said the *Sacramento Bee*, August 5. While listing the California tiger salamander as threatened under the Endangered Species Act, the U.S. Fish and Wildlife Service exempted ranching activities under a 4(d) rule. The ranching exemptions "go further than the Bush administration originally had proposed" and mean that ranchers "can fix fences, maintain stock ponds, build roads and corrals, spray for weeks and undertake other actions without worrying about whether they harm the tiger salamander." The service has characterized ranchers' stock ponds as "important alternative breeding sites" for the salamander. [*GREENLines*, August 5, 2004, Issue 2164] Development is really more the risk for these critters than stock.

Maybe send them back?

"Thousands of pet owners are sitting on a time-bomb after being sold giant tortoises by mistake. The animal lovers were told their pets were common Mediterranean tortoises which grow to a mere 9 inches. But they were actually flogged huge African varieties which grow to 3 feet long, 18 inches high, weigh 15 stone and live for 100 years. The monsters scoff so much they cost 7 pounds a day, or 2,555 pounds-a-year, to feed compared to just 20 pence a day for ordinary tortoises. Now animal campaigners fear many will be dumped in the wild when they reach full size in five or six years from now, causing massive devastation to plant life. [The] secretary of the International Tortoise Association said, `. . . People who thought they were buying a small, cute tortoise inches long are left feeling their garden has been invaded.' The crisis began four years ago when importers brought in thousands of African Spur Tortoises because they did not need to be licensed. The creatures were mistakenly labeled as Mediterranean Spur Thigh Tortoises, the type most people keep. A normal animal will get by on a piece of cabbage, some lettuce and a tomato daily. But an African Spur munches three cabbages, six lettuces, five bananas and a mound of tomatoes and cucumber. Shops have stopped selling them but [the ITA] in South Wales has rehoused 20, warned: `This will get worse until it reaches epidemic proportions.'" [London, U.K.: *The Sun*, September 21, 2004, from Wes von Papineäu]

Eye in the Sky

• "Scientists leading an international effort to safeguard the future of endangered loggerhead turtles . . . watched the capture and demise of one of their turtles being tracked by satellite. . . . [The] loggerhead sea turtle from the republic of Cabo Verde, an island archipelago off the coast of Western Africa, appears to have been captured by fishermen. She is one of 9 turtles being tracked by satellite from the recently discovered loggerhead nesting population in Cape Verde, which is second only to Florida in the Atlantic and is the most important site in West Africa. Each time the tracked turtles surface to breathe, their transmitting units connect with orbiting satellites and send radio transmissions that allow their position to be calculated. As discovered this week, this can also allow us to monitor their capture from space. `We started to receive an unusually large number of very high quality locations . . . suggesting she was likely on the deck of a boat and we became suspicious. Two days ago, transmissions ceased, suggesting that her transmitter has been removed and dumped. Given the large number of turtles captured for food in Cape Verde and the presence of fishing boats in the area at the time, we think we know her fate'" said a research fellow with the project. They post real-time public access to this project with live maps of the turtles' tracks provided online at < http://www.seaturtle.org/tracking> . [http://www.physorg.com/news969.html — August 27, 2004, from Wes von Papineäu]

• A study of Queensland, Australia, saltwater crocodiles that tracked individuals by satellite has shattered some long-held beliefs about crocodile behavior. "Far from being solitary, sedentary animals with one dominant male defending a set territory, Queensland's estuarine crocodiles have been revealed as living sociable, energetic lives. They are also capable of walking up to 5 kilometers (3.1 miles) over land between water holes, and have a keen homing instinct. . . . The findings were announced at Irwin's Australia Zoo at Beerwah on the Sunshine Coast this week, the project has been a partnership between the zoo, Queensland Parks and Wildlife Service and Queensland University. The project began last year when Dr. Read, Irwin and other zoo staff travelled to far north Queensland where they caught several large crocodiles, dubbed Banana-head, Nesbit, Big Bad Bob and Supercroc, on which they glued specially designed, fist-sized satellite transmitters." [*HerpDigest*, Volume 4, Number 51, August 22, 2004, from Allen Salzberg]

• "BBC Wildlife magazine reports a new study that suggests leatherbacks should be viewed as a UK/Irish species which simply visits the Caribbean to breed. Five of the world's seven turtle species, many of whose numbers are in decline, can be seen off the UK coast. [The dead animal which started the debate washed ashore last year and] weighed more than 900 kilograms (2,000 pounds) and, at 100 years old, it was the

oldest recorded turtle as well as the largest. Sadly, it was found dead in 1988 after it drowned whilst trapped by fishing lines. More and more leatherbacks are being spotted around the coast of Britain and Ireland, suggesting the turtles are trawling our waters for their favorite food—jellyfish. Following the Welsh discovery, marine ecologists at Swansea University and University College Cork used satellite-tracking systems to follow 10 leatherbacks from their nesting sites in the tropics. Contrary to expectations, the tracking showed the turtles did not stay long in the Caribbean, but spent most of their time in food-rich northern waters, including those around the British Isles." [BBC News, August 23, 2004, from Wes von Papineäu]

A good time for rattlesnake tales

The keynote speaker of the Biology of the Rattlesnakes Symposium, January 15-18, 2005, at Loma Linda University, Loma Linda, California, will be David Chiszar of the University of Colorado. The whole speakers list, program, schedule and details are at < http://www.BiologyoftheRattlesnakes.com> . Symposium organizers include representatives from Loma Linda University, Emergency Medicine, Loma Linda University Medical Center and the San Bernardino County Sheriff's Department. [by email]

This is a quote!

"Americans are weird. That's not new. What is new, is that their level of weirdness has reached new heights. The Australian inland bearded dragon is the fastest growing pet in the land of the free—now numbering in the millions. After dogs and cats, lizards are the most popular domestic pet. And of these reptilian companions, the 60 centimeter Australian inland bearded dragon has now become the most popular lizard. A change in licensing laws has allowed for the export of the cold-blooded creatures and for them to be kept as pets not only by Australians, but by foreigners. Apparently the bearded dragon has a keen sense of humor, which may be why Americans like them, because they are often regarded as not having one. They also have very bright colors, so, unlike dogs and cats, they don't have to be dressed up in ridiculous clothing. They can also change colors for different occasions, such as all-black for dinner parties. They are also cold-blooded, which means they sleep a lot, and they are unlikely to get shot by a neighbor for incessant barking. . . . A wildlife expert and organizer of The Wild Australia Expo at Darling Harbour next week, said the bearded dragon makes a great pet and has now become the third most popular pet in the U.S." [Brisbane, Queensland, Australia *Courier-Mail*, August 26, 2004, from Andrea Weymouth and Wes von Papineäu]

Dumb and dumber?

Thieves who stole a two-headed albino rat snake in St. Louis were quickly caught because as Chicago's CBS News-2 reported on August 24, 2004: "There's no good way to disguise the stolen goods. St. Louis police returned a rare reptile to its museum home . . . the same day it went missing, after a tipster called in a sighting. Employees of the City Museum realized the snake was gone from its World Aquarium exhibit in the morning, and it soon became clear someone had broken in. They called police, who were quickly on the case. `One of the detectives introduced himself as "Ace Ventura, Pet Detective,"' said . . . the director of the City Museum. But shortly after St. Louis police went to the museum, a woman called the nearby Belleville, Illinois, police, to say she'd seen some teens with a two-headed snake. Police arrested two suspects without incident. They said both worked at the City Museum for about a week, but were fired earlier this month. . . . Museum officials said the snake will be displayed again, once they better secure its exhibit." [from Wes von Papineäu]

Marquis de RatSnake

A dispute in a New Jersey town "proved that just about anything can be used as a weapon," according to the *Bridgeton News*, August 24, 2004. A local man received "lacerations on his back as the result of being whipped with a dead, 6-foot-long black snake, state police said." The 26-year-old man "wasn't wearing a shirt when [his alleged assailant] . . . whipped him on the back with the snake in the yard of his . . . home. . . . State police said they learned that [the alleged assailant] had been attempting to let the snake, which was alive when the incident began, crawl into [the younger man's] residence. [But his] father . . . saw the snake approaching the front of the residence, stepped on it and beat it to death with a piece of wood." The alleged assailant then pushed the father, who quite rightly told him to leave the property, whereupon the police say, the alleged assailant picked up the deceased snake and "twirled it over his head and assaulted [the younger man] with it, police said." The family went into the house where a few minutes later the looney with the dead snake followed them in and tried to continue the assault but was stopped by the father with a baseball bat which police say "is not considered aggravated assault because he was coming to the defense of another." No one knows why the man brought the local wild animal to the house in the first place.

I didn't know they had trailer parks in Austria

"Police shot a man in the thigh after he wrapped himself with two deadly cobras and threatened to commit suicide, then swung the snakes at officers who had rushed to his home. . . . One of the cobras bit the 40-year-old man in the hand during [a] Sunday afternoon standoff in Leoben, a town in the southern Austrian province of Styria. . . . He underwent emergency surgery for the snake bite and the gunshot wound and remained hospitalized in critical condition [a day later]. Two officers arrived at the man's apartment after he sent a cell phone text message to his girlfriend saying he planned to kill himself. . . . The officers unsuccessfully tried to overpower the man by using pepper spray, and one of the officers shot the man in the thigh after he began swinging the cobras at the patrolmen, authorities said. He was bitten while handling the snakes, they said. Police said the man, whose name was not released in line with Austrian privacy laws, was intoxicated at the time. A reptile expert called to the scene said the man, a snake dealer, had more than 60 poisonous snakes in his apartment. Officials removed the snakes, which were being cared for temporarily at a local zoo." [September 20, 2004, from the Johannesburg, South Africa, *Independent* and the *Keine Zeitung* in Klagenfurt, Austria, both from Wes von Papineäu]

Late and Later

"Feds Start Search For Elusive Rattlesnake: from *Yahoo! News*, August 23, 2004, The U.S. Fish and Wildlife Service along with the Illinois Department of Natural Resources and local forest preserve districts are planning a comprehensive search for the elusive Eastern Massasauga rattlesnake in suburban Chicago counties. The rattlesnake has been on the Endangered Species Act candidate list since 1998." [*HerpDigest*, Volume 4, Number 52, August 29, 2004, from Allen Salzberg]

Karma is a wheel

The *Wilmslow Express* from Wilmslow, U.K., reported on September 2, 2004, that the discovery of newts on a property is about to send prison builders to jail. "No newts would have been good newts for bosses at Styal Prison when its multi-million-pound expansion project ground to a halt. Builders working on a project to turn it into the biggest female jail in the UK were forced to down tools when they discovered a hoard of great crested newts, an endangered species. The slimy black pond dwellers, which can grow up to 15 centimeters, are so rare British and European law makes it an offense to disturb either them or their habitat. So, at a cost believed to run into thousands of pounds, experts have been called in to transport the newts to an alternative home before work can restart. A spokesman for Styal Prison confirmed: `We currently have crested newts delaying construction at the building site. As they are an endangered and protected species a company of environmental consultants are in the process of removing them. Ecologists are rehousing them in another pond a short distance away. The newts are OK.' Numbers of great crested newts have fallen dramatically as more of their natural habitat is destroyed. Developments such as the one at Styal Prison mean large ponds—a perfect home for the amphibian—are vanishing. It is a particularly crucial time for the species as late summer sees the birth of its young. August and September see hatchlings develop from spawn into fully breathing baby newts. It is unclear how long work, at the former site of Bollin Cross School in the prison grounds, will be delayed. But [a spokesman for] the Cheshire Wildlife trust thinks it could be quite some time. He says the most likely way of catching the newts is to put a low net in the pond and simply wait for them to swim into it, [and] added: `This can be a long job, it is not easy. You have to be qualified to handle newts. A lot of ponds in the country have been lost but you are not going to stop the developers. They can mitigate the damage though and are doing the right thing. We'll have to see how successful it is, I hope the newts are all right, you can't just build over the top of them.'" [from Wes von Papineäu]

Millions happy after hurricanes

"Scientists say the heavy flooding left behind by three hurricanes could spawn a massive frog invasion in Florida. Low-lying areas filled with rain from Hurricanes Charley, Frances and Ivan create an ideal, predator-free breeding ground for frogs to lay eggs, said . . . an associate professor in biology at the University of Central Florida in Orlando. `I have millions of tadpoles and I have about 15 types of tree frogs,' said . . . a volunteer for Frogwatch USA. `It's a blast to listen to them. It's a blast to watch them.' Tadpoles and frogs generally help the ecosystem, experts say. Tadpoles eat algae in water, frogs eat mosquitoes and other insects, and then frogs become food for raccoons, snakes and birds." [Tallahassee, Florida, *Democrat*, September 19, 2004]

News from the other downunder

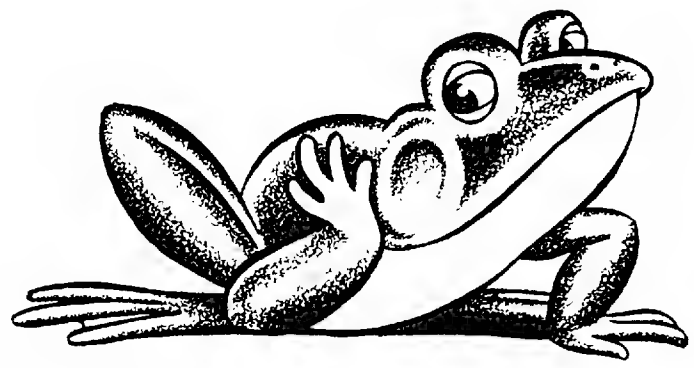
• New Zealand authorities are looking for non-native turtles in the Waikato River because people who bought red-eared sliders at the height of the second Teenaged Mutant Ninja Turtle craze have let some loose. The Department of Conservation is studying their potential effect on native flora and fauna. A letter sent round to staff asked for a particular lookout for common pet shop animals including red-eared slider turtles, axolotls, fire-bellied newts and rainbow skinks in New Zealand's wild places. A DoC manager said "he had seen turtles and axolotls living in the Waikato River and was aware of rainbow skinks living on parts of the Coromandel Peninsula." and their "Biosecurity Unit spokeswoman . . . said concern was raised after DoC discovered blue-tongue skinks in the wild. She said many of the species had a wide-ranging diet and could have a negative biological impact on the environment." Unconfirmed, but on the watch list are eastern water dragons, Reeves turtles and shingleback lizards. [Auckland, New Zealand, *Herald*, August 28, 2004, from Wes von Papineäu]

• The *Otago Daily Times* reported that a group of New Zealand agencies have gotten together looking into reports of a snake smuggling ring bringing breeding pairs into the country and selling them for up to $10,000 (NZ). "The ministry was interested in the arrest of a [47-year-old] man at Brisbane Airport last week, trying to smuggle 19 snakes from Singapore. [The man,] a company director living in Indonesia, was charged with illegally importing rare pythons after he was arrested at Brisbane airport with reptiles hidden in cigarette packets in a custom-made vest strapped to his chest. Colored pythons, such as the green tree python, were the most common snakes kept as pets . . . although collectors could want any breed, including venomous snakes. . . . Because all imports of snakes are illegal, specimens captured are often sent to be identified [by a] herpetologist. Ministry of Agriculture and Forestry officials said any members of the public finding a snake should not approach it" but call their hot line and they'll take care of it. [September 18, 2004, from Wes von Papineäu]

Thanks to everyone whose contributions lying in their envelopes will soon get typed in and form the core of my November column. Don't stop sending things! Take whole sheets of newspaper or magazines and mail them to me: Ellin Beltz, POB 1125, Ferndale, CA 95536. Letters and links to my email < ebeltz@ebeltz.net> and check out all the new stuff on my website < http://ebeltz.net> .

The Tympanum

A Tucson Herper's Visit to Chicago



In sixth grade I had the great fortune of meeting Lee Oler, a music teacher who would heavily influence my life ever since. At the time, I was playing violin for the first time and keeping turtles and tortoises for the first time. We became the best of friends and she led me to play semiprofessionally and introduced me to the Tucson Herpetological Society. What does this have to do with my visit to the Chicago area? Well, among the herpetological gurus of the Society who took me under their wings, one of them was Roger Repp, a fellow CHS member. I encountered my first Gila monster (*Heloderma suspectum suspectum*) in the wild and went on my first road hunt with him. I had also read of his exploits "back east," when alligators were offered at early CHS meetings (Repp, 1990).

Five years later, I am set to tour Chicago, Champaign-Urbana and Madison, Wisconsin, with the orchestra that I played in. I was so excited! Except for the Bronx, Philadelphia and Baltimore Zoos, I have managed to arrange a behind-the-scenes tour of the reptile house of every zoo that I visit. Roger Repp was kind enough to enlist the help of Mike Dloogatch to arrange tours of the Reptile House at Lincoln Park and Brookfield Zoos.

On Sunday, May 29, the orchestra had an entire free day to walk around Chicago. From the parked vans, I called Mike and told him where I was downtown. I was only a few blocks away and was in Mike's office right away! Being from a small city such as Tucson, I fell in love with the big city atmosphere of Chicago. When I reached 11 S. LaSalle, I had to pause and confirm at where I was. I never thought that herpers could be associated with such elegant architecture! I had also never been higher than 3 floors in high school before this. Mike was a gracious host and in no time we were off to Lincoln Park Zoo! Our guide was a keeper by the name of Mike Skidmore. The highlight of the tour was photographing a female of the endangered Standing's Day Gecko (*Phelsuma standingi*) lay eggs in a dish behind a branch in a public display cage when Mike the keeper opened the service door for me to take a look inside. I was also very impressed with the public viewing area. By the time Mike and I were ready to go see the dwarf crocodiles in a different part of the Zoo, it was pouring cats and dogs! We ran to the gift area, and Mike was kind enough to buy an umbrella at an astounding gift shop price (but none the less to a great zoo) to get to the pygmy crocs. Sadly, the pygmy crocs were not visible when we arrived. After a nice PowerPoint slide show of his recent trip to South Africa, Mike dove me to the Chicago Art Institute where the orchestra was grouping.

On the last day of my visit, I visited the Brookfield Zoo and met with herp keeper Geri Radaszewski. Unfortunately, her managers had not authorized a behind-the-scenes tour for me because they were out of town. I was not disappointed, Geri was kind enough to tell me about the Reptile House and the herps they kept, and she also put up with my constant questions. Brookfield Zoo's first herp curator was Grace Olive Wiley. She was a rather unorthodox herpetologist, documenting the captive breeding of the western diamond-backed rattlesnake (*Crotalus atrox*) and referring to the animals by their pet names of "Huckleberry Finn," "Ethel" and "Stanley." Her famous attribute was her ability to free-handle venomous snake species under the theory that they could be handled no differently than any other snake or wild animal. She eventually succumbed to a camera-flash-induced bite from a cobra in a shipment of many from Siam. She calmly secured the cobras and slipped into a coma at the hospital.

After hearing about the difficulty they were having breeding the Sonoran green toads (*Bufo debilis*), I am working on notifying the Arizona-Sonora Desert Museum on the issue. Thanks Geri! I was also very fond of the old school architecture of the Reptile House! Afterwards I visited the Zoo's Bookstore and was impressed with the selection of herp titles! This fueled my natural history book collecting fever and I ended up buying the great *Turtles of Venezuela* by Pritchard and Trubbau (1984). I am still kicking myself for not also buying The Life and Times of Roger Conant! One day. . . .

Thank you so much Mike, the CHS has a new member from Tucson! If any of you from the CHS are in the Tucson area, don't hesitate to get a hold of me! As Roger Repp signs his e-mail THS meeting reminders:

"This here's Roger Repp, signing off from southern Arizona. Where the snakes are handsome, the turtles are strong, and the lizards are all WAY above average!

As always, thanks for your indulgence. Cheers, Roger"

Robert Villa, Tucson Herpetological Society,
AZherper16@aol.com

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Bull. Chicago Herp. Soc. 39(10):194-196, 2004

Herpetology 2004

In this column the editorial staff presents short abstracts of herpetological articles we have found of interest. This is not an attempt to summarize all of the research papers being published; it is an attempt to increase the reader's awareness of what herpetologists have been doing and publishing. The editor assumes full responsibility for any errors or misleading statements.

CALCIUM-FORTIFIED CRICKET DIETS

M. D. Finke et al. [2004, J. Herpetological Medicine and Surgery 14(2):17-20] note that crickets, *Achela domesticus*, are commonly fed special diets to alter their nutrient content (especially with regards to calcium) to make them a more complete diet for insectivorous birds, reptiles and amphibians. Typically calcium-fortified dry diets are used to increase the insects' calcium content. This experiment compared the moisture, calcium and phosphorus content of crickets offered a typical dry calcium-fortified gut loading diet and distilled water, with those fed several commercial products (two commercial "calcium-fortified cricket waters" and a calcium-fortified high moisture diet designed to provide both food and water). An unfortified dry diet served as a negative control. Crickets fed the calcium-fortified dry diet contained significantly more calcium than those fed the other treatments. Cricket phosphorus content was not affected by diet. In summary the commercial products tested were ineffective in increasing the calcium content of crickets fed these products. For that reason the use of a calcium-fortified dry diet is recommended for supplementing crickets with sufficient calcium to meet the needs of the insectivorous reptiles and amphibians to which they are fed.

BARKING FROG RELATIONSHIPS

C. S. Goldberg et al. [2004, Herpetologica 60(3):312-320] observe that barking frogs (*Eleutherodactylus augusti*) are distributed from southern Mexico along the Sierra Madre Occidental into Arizona and the Sierra Madre Oriental into Texas and New Mexico. Barking frogs in Arizona and most of Texas live in rocky areas in oak woodland, while those in New Mexico and far western Texas live in rodent burrows in desert scrub. Barking frogs in each of the three states have distinct coloration and differ in sexually dimorphic characters, female vocalization, and skin toxicity. The authors analyzed advertisement call variation and conducted a phylogenetic analysis using mitochondrial DNA sequences (ND2 and tRNA regions) for barking frogs from these three states. Advertisement calls of frogs from Arizona were significantly longer in duration, higher in frequency, and had longer duration pulses than those of frogs from either New Mexico or Texas; frogs from these latter two sites were indistinguishable in these call variables. Phylogenetic analysis showed deep divisions among barking frogs from the three states. Differences in call structure, coloration, and mitochondrial DNA sequences strongly suggest that barking frogs in Arizona are reproductively isolated from those in New Mexico and Texas. Our results indicate that either northern populations are connected via gene flow through southern Mexico (i.e., they are subspecies as currently recognized), or represent independent lineages as originally described (i.e., western barking frogs, *E. cactorum*, in Arizona, and the eastern barking frogs, *E. latrans*, in New Mexico and Texas).

BLUE IGUANA NOMENCLATURE

F. J. Burton [2004, Caribbean J. Science 40(2):198-203] states that a recent phylogenetic study of the West Indian rock iguana genus *Cyclura* [Malone, C. L., T. Wheeler, J. F. Taylor and S. K. Davis. 2000. Phylogeography of the Caribbean Rock Iguana (*Cyclura*): Implications for conservation and insights on the biogeographic history of the West Indies. Mol. Phylogen. Evol. 17:269-279] indicated that *Cyclura nubila lewisi* on Grand Cayman has diverged from nominate *Cyclura nubila* in Cuba to a degree equal to or greater than the currently accepted distinction between *Cyclura nubila* and *Cyclura cychlura* in the Bahamas. This evidence, in combination with existing and new observations of scale characters, color pattern, geographic and reproductive isolation, and phyly, leads to the conclusion that the Grand Cayman blue iguana, until now designated as *Cyclura nubila lewisi*, is a population lineage evolving independently from populations on neighboring islands, and, like *Cyclura cychlura*, is sufficiently distinct and diagnosable to be considered a species, *Cyclura lewisi* Grant 1940. *Cyclura n. caymanensis* is retained as a subspecies of the Cuban iguana, *Cyclura nubila*, since it appears to be at a much earlier stage of evolutionary divergence.

SEDIMENT, CATFISH AND TADPOLES

C. T. Solomon et al. [2004, Copeia 2004(3):610-616] note that in Neotropical streams, benthic sediment affects community structure and may impose energetic costs for some species yet be a resource for others. This study tested the hypothesis that removal of benthic sediment through ingestion by *Rana palmipes* (Ranidae), a detritivorous tadpole, facilitated the growth of *Ancistrus triradiatus* (Loricariidae), an algivorous armored catfish. The authors hypothesized that sediment removal by *Rana* would reduce energetic costs to respiration or digestion encountered by *Ancistrus* when grazing on periphyton and increase available periphyton biomass. Growth of *Ancistrus* was measured in a Venezuelan piedmont stream in enclosure cages in which the presence of *Rana* and ambient sediment levels were manipulated. Benthic sediment accumulation differed significantly between treatments. Growth of *Rana* was greater when sediments were present than when sediments were removed. However, there was no effect of sediment removal on *Ancistrus* growth. Total biomass of periphyton did not differ between treatments, because epipelic diatoms were abundant in benthic sediments and presumably compensated for any negative effects of shading by sediments on total periphyton biomass. Organic-rich sediment in this system provides a net energetic benefit to *Rana*. The consequences of sediment for *Ancistrus* are less clear, but no evidence of a net cost was found. If interspecific facilitation by *Rana* occurs, it is likely limited to systems where sediment is organic-poor or to species for which costs of organic-rich sediment exceed benefits.

COLLARED LIZARDS: FEMALE COLORATION

T. A. Baird [2004, Herpetologica 60(3):337-348] notes that female-specific reproductive coloration is widespread among lizards, prompting several hypotheses to explain the possible function(s) of such coloration in females. The author tested four of these hypotheses using observational and experimental field studies of free-ranging collared lizard females, *Crotaphytus collaris*, which develop orange markings on their sides in association with the reproductive cycle. Orange markings did not appear to function for advertisement to female competitors because females rarely displayed their coloration during interactions with consexual competitors, and markings developed well before the occurrence of peak aggression among females. By contrast, females frequently displayed their lateral torso when courted by males. The number of displays given to courting males did not differ in females that had and those that had not yet developed orange markings, suggesting that female coloration does not function for sexual recognition in collared lizards. Females developed orange pigmentation while they matured their first clutches, and markings were maintained between and throughout the production and oviposition of later clutches. Male courtship encounters with females having naturally developed markings were longer and involved more male displays than those with females that had not yet developed their coloration, suggesting that development of coloration by females functions to stimulate male courtship when females are receptive. To test this hypothesis, the author established nine female pairs of size- and age-matched females that had early vitellogenic eggs, but had not yet developed reproductive pigmentation. Female pairs were each residents on the territories of nine different males. One female in each pair was painted with orange spots and bars to mimic the natural orange coloration and the other with light brown to match the natural background coloration of female *C. collaris* and mask naturally developed pigments. Males began courting orange-painted females within 2 h and, on average, orange females were courted over five times more frequently than brown females. This difference did not appear to result from males avoiding brown females because the average distance between males and females in the two treatment groups was similar. These results support the hypothesis that reproductive coloration in *C. collaris* females stimulates courtship rather than signaling rejection of courtship to males.

WOOD FROG DEFORMITIES

B. R. Eaton et al. [2004, J. Herpetology 38(2):283–287] note that deformities have been documented in many anurans, but little baseline information exists for most species. To estimate deformity levels in wood frogs (*Rana sylvatica*) in areas of relatively low disturbance, the authors summarized data from over 21,000 individuals examined during field studies in three distinct ecoregions of western Canada. Deformity levels were low (< 2%) in all wild populations sampled and included examples of polymelia, polyphalangy, ectromelia, and amelia. The authors suggest that many of the documented deformities were related to physical trauma and that dramatic deformities were recorded more often than those that were less noticeable, such as deformed digits.

BULLFROG EFFECTS ON OTHER AMPHIBIANS

M. D. Boone et al. [2004, Copeia 2004(3):683-690] examined the interactive effects of overwintered bullfrog (*Rana catesbeiana*) tadpoles and pond hydroperiod on a community of larval amphibians in outdoor mesocosms including American toads (*Bufo americanus*), southern leopard frogs (*Rana sphenocephala*) and spotted salamanders (*Ambystoma maculatum*)—species within the native range of bullfrogs. Spotted salamanders and southern leopard frogs were negatively influenced by the presence of overwintered bullfrogs. Spotted salamanders had shorter larval periods and slightly smaller masses at metamorphosis, and southern leopard frogs had smaller masses at metamorphosis when reared with bullfrogs than without. Presence of overwintered bullfrogs, however, did not significantly affect American toads. Longer pond hydroperiods resulted in greater survival, greater size at metamorphosis, longer larval periods and later time until emergence of the first metarnorphs for southern leopard frog tadpoles and spotted salamander larvae. This study demonstrates that overwintered bullfrog tadpoles can respond to changing pond hydroperiods and can negatively impact metamorphosis of native amphibians.

FIVE-LINED SKINK MICROHABITAT

B. J. Howes and S. C. Lougheed [2004, Herpetologica 60(3): 287-294] note that although broad habitat preferences are known for many species of conservation concern, identification of key microhabitat elements critical to persistence and reproduction is a crucial and generally understudied aspect in conservation. This study examined diurnal microsite selection in the five-lined skink (*Eumeces fasciatus*) to identify important microhabitat elements in its most northerly populations. Seven populations distributed across the southern edge of the Canadian Shield were sampled. To determine which microhabitat elements are important in diurnal microsite selection, ten microhabitat features were compared in occupied and unoccupied quadrats. A Classification and Regression Tree analysis showed that the best predictor of *E. fasciatus* presence in a meter-by-meter quadrat was proportion of cover rock. This finding will help in modeling or identifying potential historical, current or future habitat in these most northern *E. fasciatus* populations, and aid population managers in monitoring the habitat suitability of extant five-lined skink populations.

LEOPARD FROG SYSTEMATICS

C. S. Goldberg et al. [2004, J. Herpetology 38(3):313-319] used mitochondrial DNA sequences to investigate the phylogenetic relationship of *Rana subaquavocalis* and *Rana chiricahuensis*. The authors sequenced 1344 base pairs of the mitochondrial control region from 39 samples of *R. subaquavocalis* and 53 samples of *R. chiricahuensis* from localities throughout their Arizona range. In maximum-likelihood analysis, *R. subaquavocalis* samples were on a short branch within the southern Arizona clade of *R. chiricahuensis*. Two distinct lineages of *R. chiricahuensis* were found: one on the Mogollon Rim of central Arizona and one in southern Arizona. These results are consistent with the hypothesis that *R. chiricahuensis* and *R. subaquavocalis* are conspecific.

PREDATION ON *PHYLLOMEDUSA* EGGS

S. Neckel-Oliveira and M. Wachlevski [2004, J. Herpetology 38(2):244–248] investigated aspects of the reproductive characteristics of three species of *Phyllomedusa*, identified the main embryo predators, and quantified the impact of different predators on clutches of each *Phyllomedusa* species in Central Amazonia, Brazil. Clutches of *Phyllomedusa tarsius* had the lowest proportion of attack by predators (29%); 59% of *Phyllomedusa tomopterna* clutches were attacked by predators; and 61% of *Phyllomedusa bicolor* clutches were attacked by predators. Staphilynid beetles and phorid flies were the main causes of clutch loss (18 and 17 clutches, respectively), followed by mammals (6), and unidentified predators (13). Field observations showed that egg mortality per clutch resulting from phorid flies and staphilynid beetles predation varied from 67% in *P. tomopterna* to 77% in *P. tarsius*. Mammal predation was seen only in *P. bicolor* clutches, and egg mortality was 100% for those clutches affected. High clutch attack rates and within-clutch mortality suggest that predation plays an important role in determining larval recruitment for arboreal egg-laying in Central Amazonia.

PAINTED TURTLE THERMAL BIOLOGY

K. L. Grayson and M. E. Dorcas [2004, Herpetologica 60(3): 325-336] measured temperature variation in a free-ranging ectotherm by attaching microdataloggers to the carapaces of 34 painted turtles (*Chrysemys picta*) in a farm pond located in Davidson, North Carolina. Water and mud temperatures (T_w) were simultaneously monitored. External shell temperature (T_s) was successfully recorded in 18 turtles from September 2001 through April 2002 and 23 turtles from April 2002 through October 2002. Turtle temperatures steadily decreased through the fall and basking continued until the middle of December. Minimum yearly T_s (1-3°C) occurred during the same week (2–7 January 2002) for all turtles. Turtle temperatures then steadily rose and basking resumed in February. More basking events took place during February and March than during other months of the year when *C. picta* used basking to reach T_s 5–16°C above the maximum water temperature. During the summer, turtle T_s reached values similar to those achieved via basking during cooler months, apparently without leaving the water. The number of basking events per month was significantly different between consecutive months for seven of eleven consecutive month pairs. Contrary to the authors' predictions, more basking events were recorded for male turtles than for females overall for the year. Monthly basking profiles were also significantly different for male and female turtles, with males basking earlier in spring than females. Mean maximum weekly T_s were significantly higher for males than for females. This research documents seasonal variation in temperature and basking behavior in *C. picta*, as well as the importance of basking for achieving high temperatures during cooler months, demonstrates the effectiveness of microdatalogger technology for measuring temperature variation in small reptiles, and contributes to a more complete understanding of the thermal biology of *C. picta*.

WALL LIZARD ESCAPE BEHAVIOR

W. E. Cooper, Jr., and V. Peréz-Mellado [2004, Herpetologica 60(3):321-324] note that optimal escape theory predicts that prey permit closer approach by predators when fleeing is more costly, but does not predict other aspects of escape such as distance fled or the likelihood of returning to the initial site in the presence or absence of a resource such as food. Because a lizard preparing to feed may lose the feeding opportunity, optimal escape theory predicts that the lizard should allow a predator to approach closer before fleeing when a stationary food source is present than in its absence. The authors also predicted that when a predator was nearby, lizards would flee a shorter distance and return more often when food was present than absent. The authors presented adult males of the omnivorous Balearic lizard, *Podarcis lilfordi*, with a tethered piece of pear or a pebble of similar size and shape. One investigator would approach a lizard in a standardized manner, stopping and remaining still when the lizard fled. The other recorded escape and return behaviors. Lizards in the presence of food permitted closer approach before fleeing, fled a substantially shorter distance, and were far more likely to return to the site of stimulus presentation than when a pebble was presented. These findings suggest that prey may alter aspects of escape behavior to reduce costs due to lost opportunities, and present a likelihood that interspecific variation exists in the combination of aspects of antipredatory behavior that are modified.

SPOTTED SALAMANDER DEMOGRAPHICS

E. A. Blackwell et al. [2004, Herpetologica 60(3):304-311], for six breeding seasons (1997–2002), conducted an intensive mark-recapture study on a breeding population of the spotted salamander, *Ambystoma maculatum*, near the southern edge of their range in east-central Alabama. A drift fence completely encircling an ephemeral pond was used to capture all adult salamanders migrating into or out of the pond, and passive integrated transponders were used to provide individual identification. The Jolly-Seber method of population estimation was used to estimate three population parameters (size, gains, and survivorship); population growth rate was also estimated. Gains varied annually, ranging from 24 ± 16 to 101 ± 24, and population growth rate was low ($r = 0.18 \pm 0.188$), suggesting inconsistent recruitment. Consistent with life history parameters of long-lived, late-maturing species, survivorship (range 0.629 ± 0.064 to 0.699 ± 0.08) and breeding population sizes (range 189 ± 24 to 260 ± 16) remained essentially constant. These demographics for *A. maculatum* are useful for planning conservation initiatives.

Unofficial Minutes of the CHS Board Meeting, September 17, 2004

Lori King called the meeting to order at 7:36 P.M. Board members Linda Malawy and Ed Rzewnicki were absent.

Officers' Reports

Recording Secretary: Melanie Aspan read the minutes of the August 13 board meeting. Corrections were made and the minutes were accepted.

Treasurer: Jim Hoffman presented the August balance sheet.

Membership Secretary: Mike Dloogatch presented the membership report and chart. The chart sparked a lively discussion regarding the Board's concern at our decreasing membership numbers. It was suggested that new members could possibly be attracted by shifting focus slightly to breeding and husbandry. Seeking out speakers and appropriate articles for the *Bulletin* on these topics were some of the ideas presented.

Vice President: Lee Fitzgerald has been engaged to speak at the October meeting and the Sierra Club will be making a presentation on Shawnee National Forest during the elections at the November meeting.

Corresponding Secretary: Steve Spitzer presented the CHS insurance renewal. It was discussed that our insurance allows for up to 4 shows (defined as events initiated by the CHS) for each year. Steve also mentioned that a fee might be involved if the CHS continues to hold monthly Board Meetings at North Park Village.

Committee Reports

Shows: Jenny Vollman presented the upcoming Notebaert weekends as October 2–3, November 6–7 and December 26–27. The CHS will have a conservation-oriented booth at this year's North American Reptile Breeders Conference and Trade Show will be held in Tinley Park October 9–10. Steve Sullivan announced that the flier for Reptile Fest 2005 is now up on the CHS website. Steve also invited any interested individuals to the next ReptileFest meeting which will take place on September 24 at his home at 7:30 P.M. Jenny Vollman and Steve Sullivan reported that while the Michigan Society of Herpetologists' Fall Super Expo on September 4 was a small show this year, attendance was good. Jenny and Steve also reported that the milksnake entrance tunnel built by the MSH for this event will be a wonderful addition to ReptileFest 2005 and has been secured as a rented item for that weekend.

Salamander Safari: Ron Humbert announced plans for the 2005 Salamander Safari on March 26 at the Plum Creek Nature Center.

Raffle: It was discussed that the raffle continues to grow in volume and consequently takes more time from the meeting each month. It was decided that a 15-minute time limit should be assigned to the event each month beginning in September.

General Meetings: Ron Humbert agreed to "surprise us" with the topic animal for the October General Meeting. November's subject will be the broad-headed skink.

Nominating: Lori King announced that the Nominating Committee has been filled by Ron Humbert as the Chair as well as Zorina Banas, Jim Hoffman, Linda Malawy and Sean Bober. The Committee expects to present the slate at the September General Meeting.

CHS Grants: Lori King informed the Board that information for those individuals wishing to apply for a CHS Grant has been put onto the website. Jim Hoffman reminded us that there is already $1,000 in the 2005 Grants fund due to various donations. John Bailey made a motion to allocate an additional $2,500 to the 2005 Grants fund. Steve Spitzer seconded and the motion was passed unanimously.

Conservation: Lori King related to the Board that rescue efforts are in effect on Grand Cayman Island following Hurricane Ivan's pass through the area.

Chicago Wilderness: Ron Humbert reported that a Communications Workshop held by Chicago Wilderness will be taking place on September 22, 2004, and that the CHS should send a representative. Steve Spitzer was asked if he would attend, and he responded that he would attempt to do so.

Old Business

State Reptile/Amphibian: Ron Humbert recounted the press conference held in conjunction with Pat Quinn, Illinois' Lt. Governor. Internet voting is now available to all Illinois residents from several websites including Pat Quinn's and Brookfield Zoo's.

Reimbursement for Field Museum Show Parking: Jenny Vollman reported that this item is still pending.

AV Equipment: John Bailey presented two different package examples and prices. The Board discussed various options and a decision was made to write a letter to Dell seeking a discount on the equipment required.

Shawnee National Forest Concerns: The Board signed two separate petitions; the first supporting approval of the three additional areas to be added to Federal protection, the second to ban the use of ATVs in the area.

New Business

Board Meeting Change to October 22: The October Board meeting has been postponed a week due to the 2004 Midwest Herpetological Symposium taking place October 15–17.

The meeting was adjourned at 10:10 P.M.

Respectfully submitted by Melanie Aspan, Recording Secretary.

Advertisements

For sale: rats and mice—pinkies, fuzzies and adults. Quantity discounts. Please send a SASE for pricelist or call Bill Brant, *THE GOURMET RODENT*, 6115 SW 137th Avenue, Archer FL 32618, (352) 495-9024, E-mail: GrmtRodent@aol.com.

For sale: from **The Mouse Factory**, producing superior quality, frozen feeder mice and rats. We feed our colony a nutrtionally balanced diet of rodent chow, formulated especially for us, and four types of natural whole grains and seeds. Mice starting from: pinks, $.17 each; fuzzies, $.24 each; hoppers, $.30 each; weanling, $.42; adult, $.48. Rats: starting with pinks at $.45 each, to XL at $1.80 each. Discount prices available. We accept Visa, MC, Discover or money orders. PO Box 85, Alpine TX 79831. Call **toll-free** at (800) 720-0076 or visit our website: < http://www.themousefactory.com> .

For sale: **high quality frozen feeders**. Over a decade of production and supply. Seven sizes of mice availabe: small newborn pinks up to jumbo adults. Prices start at $25 per 100. Feeders are separate in the resealable bag, not frozen together. Low shipping rates. Free price list. Kelly Haller, 4236 SE 25th Street, Topeka KS 66605, (913) 234-3358 evenings and weekends.

For sale: out-of-print books. *Australia's North* by Stanley and Kay Breeden, 1975, 208 pp., large format (9½×12"), many excellent color and b&w photos (some full page), DJ, hardbound, an outstanding account of the natural history of the Top End (i.e., Kakadu) and the Kimberley, photos and discussion of many herps (pythons, monitors, geckos, frill-necked lizard and others), $38; "The Red-bellied Black Snake" by Rick Shine, 12 pp., color photos, in April-June, 1997, issue of *Australian Geographic* , a 125-page journal with well-researched and illustrated articles about subjects of interest to Australophiles, $13; *Australian Reptiles in Colour* by Harold Cogger, 1967, 112 pp., 50 color plates of excellent photos of reptiles in their native habitat; somewhat tattered DJ, hardbound, $15; *Some Common Snakes and Lizards of Australia* by David McPhee, 1963 (1959), 125 pp., many b&w photos, small, pocket-book size, spine slightly scuffed, softbound, $26. All books in excellent condition except as noted. Orders for $25 or more sent postpaid; $2.50 postage and handling for orders under $25. Send E-mail address for complete list of books available. William R. Turner, 7395 S. Downing Circle West, Littleton, CO 80122, (303) 795-5128. E-mail: toursbyturner@aol.com.

For sale: c.b. '03 yellow anacondas, aggressive feeders, perfect health, about 2 ' long, $100 each; also c.b. '04 reticulated pythons; beautiful hatchlings already feeding on adult mice. These guys are tiger siblings and are available for $100/each as well. Personal checks, money orders and Paypal accepted. Out of state shipping available. If you have questions or would like to purchase an animal call Mark Petros, (847) 836-9426 or E-mail ballpython777@yahoo.com.

Herp Tours: Why pay more? Travel with the International Fauna Society, a 501 (c)3 not-for-profit organization, and experience the Costa Rican rainforest! Stay at the beautiful Esquinas Rainforest Lodge in the untouched herpetological paradise that is Piedras Blancas National Park. Meet new friends, relax in the naturally-filtered swimming pool or in the lush, fauna-filled tropical garden. Discounts for IFS and Chicago Herp Society members. For details, visit The International Fauna Society website at www.faunasociety.org or E-mail: info@faunasociety.org.

Herp tours: Adventure trips to **Madagascar**! Journey somewhere truly unique to seek and photograph nature on the world's least-studied mini-continent. For maximum herp fun and discovery, join Bill Love as we go where few people will ever venture in their lives. Let his experience assure a comfortable tour finding the most colorful and bizarre species on the planet! Get all the details at Blue Chameleon Ventures' comprehensive new website: < http://www.bluechameleon.org> , E-mail: bill@bluechameleon.org, or call (239) 728-2390.

Herp tours: Experience the Amazon! Road-ride in Costa Rica! See and photograph herps where they live, have fun doing it, make good friends and contacts, and best of all . . . **relax!** From wildlife tours to adventure travel, **GreenTracks, Inc.** offers the best trips led by internationally acclaimed herpers and naturalists. See our website < http://www.greentracks.com> or call (800) 9-MONKEY. E-mail: greentracks@frontier.net.

Reptile Show: Captive-bred only. Monona Community Center, 1011 Nichols Road, Madison WI. Saturday, November 13, 10 A.M. to 4 P.M., $4 admission, $2 under 12. Vendors tables, $25. Info: wireptileshows@hotmail.com or 608-238-2891

Wanted: **Shed skins**. I am studying the sheds of eastern North American snakes for the purpose of developing an identification key. If you keep any of the following species, would you consider providing me with sheds? I need sheds from: *Agkistrodon contortrix mokasen*, *Carphophis amoenus* ssp., *Cemophora coccinea*, *Clonophis kirtlandii*, *Coluber constrictor* ssp., *Elaphe gloydi*, *E. guttata*, *Farancia abacura* ssp., *F. erytrogramma* ssp., *Heterodon platirhinos*, *Lampropeltis calligaster*, *L. g. getula*, *L. g. niger*, *Nerodia erythrogaster* ssp., *N. taxispilota*, *Opheodrys aestivus*, *Pituophis melanoleucus* ssp., *Regina ridida* ssp., *Sistrurus catenatus* ssp., *Tantilla coronata*, *Thamnophis butleri*, *T. radix*, *T. sauritus* ssp., *Virginia striatula* and *V. valeriae* ssp. For more information on how you can help with this project, please contact me at the following address: Brian S. Gray, Serpent's Cast Identification Services, 1217 Clifton Drive, Erie PA 16505-5215, or call (814) 833-1074.

Wanted: Female ball pythons, adults preferred but smaller animals also considered. I am a professional breeder specializing in ball pythons and I can assure you that your animal will be provided with excellent care and optimal living conditions. Mark Petros, (847) 836-9426; ballpython777@yahoo.com.

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17. Signature of Editor Michael Dloogatch

News and Announcements

2005 CHS HERPETOLOGICAL GRANTS PROGRAM

The Chicago Herpetological Society announces the 2005 CHS Herpetological Grants Program to award financial support for herpetological research, education and conservation. Several awards of up to $500 each will be available. Interested parties may apply for a grant in any one of the following categories:

1. Illinois Herpetology
2. Graduate Student Research in Herpetology
3. Undergraduate Research in Herpetology
4. Conservation
5. Captive Management, Husbandry, and Propagation

An attempt will be made to award grants in each category, but depending on the applications received, not all categories may receive awards. Some categories may receive more than one award. The CHS Grants Committee reserves the right to reassign the category under which a given proposal is submitted.

To qualify for a grant, the applicant must be a member of the Chicago Herpetological Society as of December 31, 2004. In accepting a grant, the recipient agrees to abide by all state and federal laws, and to acknowledge the Chicago Herpetological Society in any publications or public presentations (e.g., posters, papers at symposia, etc.) that result from the subsidized research. Recipients should inform the CHS Grants Committee when their funded projects are completed, and will be encouraged to submit their work as an article for the CHS *Bulletin*, or will be invited to present a program at a CHS general meeting.

Proposals should include the following:

1. Statement of the objectives of the proposal, and a statement assigning the proposal to one of the five categories listed above.
2. Description of materials and methods.
3. Complete budget, not to exceed $500.
4. Brief résumé of the applicant, if an individual. If the applicant is an organization, background information on that organization should be included.
5. Letters of support from collaborating partners or institutions are encouraged; student applicants must include a letter of support from a faculty adviser (see further instruction below).
6. Anticipated completion date for the project.

Proposals may be submitted either by postal mail at the address below or as E-mail attachments. Letter(s) of support sent by postal mail should be included with the other application materials but in a separate, smaller sealed envelope. Letters of support may be E-mailed, but then should include a postal address and phone number at which the writer can be contacted. Proposals must include the applicant's name and address on the first page. Proposals should be typed using a common font (e.g., Arial, Times, Courier) no smaller than 10pt, and should be double-spaced. When submitting proposals by mail, send two copies of the entire package (i.e., including résumé, budget, letters of support, etc.) in the same envelope. Applications should be brief and simple. Avoid inclusion of color images or large tables unless absolutely necessary. Complete proposal packages should not exceed five double-spaced pages (excluding literature citations, applicant's résumé and letter[s] of support). Applications must be received by 31 December 2004, and awards will be announced by 15 February 2005.

Submit paper applications to:

Chicago Herpetological Society
Grants Program
2430 North Cannon Drive
Chicago IL 60614

Electronic submissions should be E-mailed to: CHSGrant@aol.com.

Questions should be directed to Michael Dloogatch (773) 588-0728, or CHSGrant@aol.com.

UPCOMING MEETINGS

The next meeting of the Chicago Herpetological Society will be held at 7:30 P.M., Wednesday, October 27, at the Peggy Notebaert Nature Museum, Cannon Drive and Fullerton Parkway, in Chicago. **Dr. Lee A. Fitzgerald** will speak on the ecology, population biology and conservation biology of tegu lizards (genus *Tupinambis*) in Paraguay. Dr. Fitzgerald is Assistant Professor and Faculty Curator of Amphibians and Reptiles at the Texas Cooperative Wildlife Collection, Department of Wildlife and Fisheries Sciences, Texas A&M University. His research is focused on the ecology and conservation of amphibians and reptiles.

The November 24 meeting will include the annual election of officers and members-at-large of the CHS Board of Directors. Also at this meeting representatives of the Sierra Club will speak to us about their efforts in the Shawnee National Forest in southern Illinois.

The regular monthly meetings of the Chicago Herpetological Society take place at Chicago's newest museum — the **Peggy Notebaert Nature Museum**. This beautiful new building is at Fullerton Parkway and Cannon Drive, directly across Fullerton from the Lincoln Park Zoo. Meetings are held the last Wednesday of each month, from 7:30 P.M. through 9:30 P.M. Parking is free on Cannon Drive. A plethora of CTA buses stop nearby.

Board of Directors Meeting

Are you interested in how the decisions are made that determine how the Chicago Herpetological Society runs? And would you like to have input into those decisions? If so, mark your calendar for the November 12 board meeting, to be held at the North Park Village Administration Building, 5801 North Pulaski Road, Chicago. To get there take the Edens Expressway, I-94, and exit at Peterson eastbound. Go a mile east to Pulaski, turn right and go south to the first traffic light. Turn left at the light into the North Park Village complex. At the entrance is a stop sign and a guardhouse. When you come to a second stop sign, the administration building is the large building ahead and to your left. There is a free parking lot.

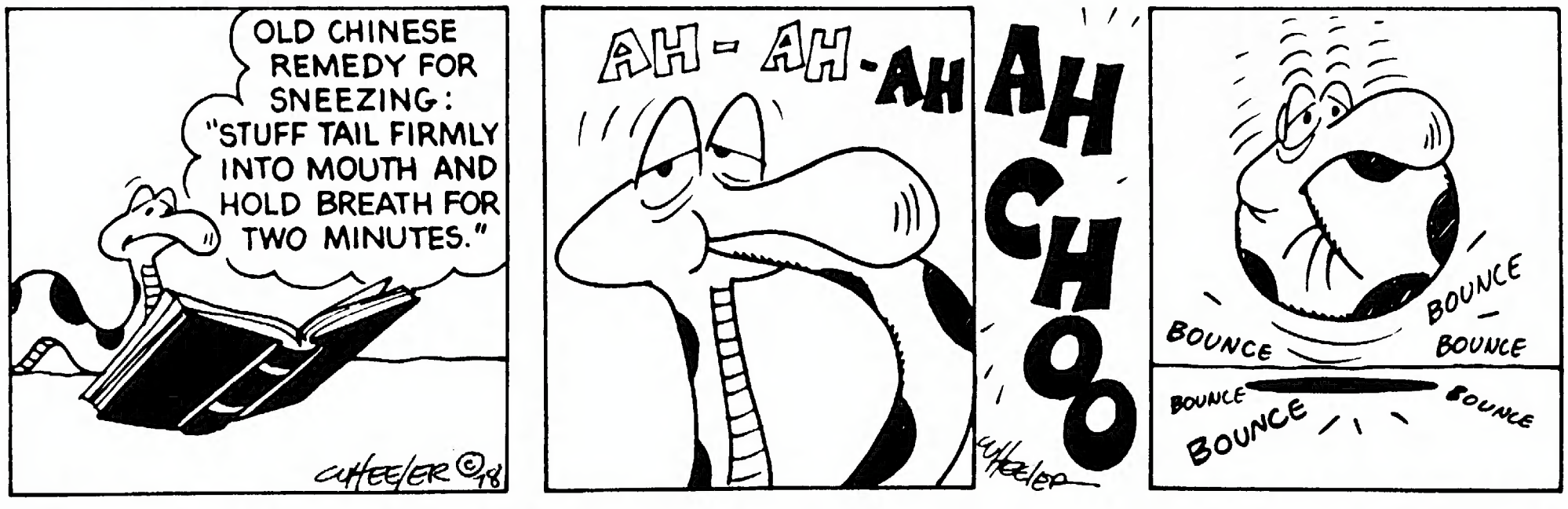
The Chicago Turtle Club

The monthly meetings of the Chicago Turtle Club are informal; questions, children and animals are welcome. Meetings normally take place at the North Park Village Nature Center, 5801 N. Pulaski, in Chicago. Parking is free. For more info call Lisa Koester, (773) 508-0034, or visit the CTC website: http://www.geocities.com/~chicagoturtle.

HERP OF THE MONTH

Each monthly meeting will showcase a different herp. CHS members are urged to bring one specimen of the "Herp of the Month" to be judged against the entries from other CHS members. Prizes will be awarded to the top three winners as follows: 1st place—6 raffle tickets at next meeting; 2nd place—4 raffle tickets at next meeting; 3rd place—2 raffle tickets at next meeting. The categories for the coming months are: October—boas other than boa constrictors; November—skinks.

THE ADVENTURES OF SPOT



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